

**IN THE CLAIMS:**

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 11, 12 and 17 AMEND claims 1, 2, 4, 5, 8-10, 13 14, 16 and 18-22 in accordance with the following:

1. (Currently Amended) A process for making a circuit board<sub>1</sub> comprising the following steps of:

half-etching a metal layer formed on an insulating substrate through ~~by means of a first mask masking which is positioned on~~ protecting an upper surface of the metal layer;

applying a positive liquid resist on the half-etched metal layer from an upper side surface of the first mask ~~masking~~;

exposing the positive liquid resist with light from the upper side surface of the first mask ~~masking~~ and developing the positive liquid resist in such a manner that a protected part of the positive liquid resist located under the first mask ~~masking~~ is ~~protected to be~~ unexposed and undeveloped;

etching again the metal layer through ~~by means of a second mask masking composed comprising~~ of the first mask ~~masking~~ and the protected part of the positive liquid resist to form a conductive pattern on the insulating substrate; and

removing the first mask ~~masking~~ and the second mask ~~masking~~ from the metal layer.

2. (Currently Amended) A process as set forth in claim 1, wherein, in ~~the step of~~ exposing the positive liquid resist with light from the upper side of the first mask ~~masking~~, a parallel light is used.

3. (Original) A process as set forth in claim 1, wherein the insulating substrate is flexible so that a tape automated bonding (TAB) type circuit board is thus made.

4. (Currently Amended) A process for making a circuit board<sub>1</sub> comprising the

following steps of:

forming a first metal layer on an insulating substrate and forming a second metal layer on the first metal layer, the second metal layer having a smaller thickness than that of the first metal layer;

applying a first resist on the second metal layer and patterning the first resist to ~~provide it with~~ form openings therein;

etching selectively only the second metal layer through the openings of the patterned ~~second metal layer~~ first resist;

half-etching the first metal layer ~~through by means of~~ a first mask masking ~~composed comprising~~ of the first resist and the second metal layer located just under the first resist;

applying a positive liquid second resist on the half-etched first metal layer from an upper side surface of the first mask masking;

exposing the positive liquid resist with light from the upper side surface of the first mask masking and developing the positive liquid resist in such a manner that a protected portion of the positive liquid resist located under the first mask masking is ~~protected to~~ be unexposed and undeveloped;

etching again the first metal layer ~~through by means of~~ a second mask masking ~~composed of comprising~~ the first mask masking and the protected positive liquid resist, to form a conductive pattern on the insulating substrate; and

removing the first resist and the second resist.

5. (Currently Amended) A process as set forth in claim 4, wherein, in ~~the step of~~ exposing the positive liquid second resist with light from the upper side of the first mask masking, a parallel light is used.

6. (Original) A process as set forth in claim 4, wherein the insulating substrate is flexible so that a tape automated bonding (TAB) type circuit board is thus made.

7. (Original) A process as set forth in claim 4, wherein the second metal layer is removed by etching after the first resist and the second resist are removed.

8. (Currently Amended) A process as set forth in claim 4, wherein ~~the step of~~ removing the first resist and the second resist comprises ~~the following sub-steps of:~~ first peeling

only the second resist and then removing the second metal layer by etching to remove the first resist.

9. (Currently Amended) A process for making a circuit board, comprising the following steps of:

forming a first metal layer on an insulating substrate and forming a second metal layer on the first metal layer, the second metal layer having smaller thickness than that of the first metal layer;

applying a first resist on the second metal layer and patterning the first resist to ~~provide form with~~ openings therein;

etching selectively only the second metal layer through the openings of the patterned ~~second metal layer~~ first resist;

half-etching the first metal layer ~~through by means of~~ a first mask masking ~~composed of comprising~~ the first resist and the second metal layer located just under the first resist;

applying a permanent-type positive liquid second resist on the half-etched first metal layer from an upper side of the first mask masking;

exposing the positive liquid resist with light from the upper side of the first mask masking and developing the positive liquid resist in such a manner that a protected portion of the positive liquid resist located under the first mask masking is ~~protected to be~~ unexposed and undeveloped;

etching again the first metal layer ~~through by means of~~ a second mask masking ~~composed of comprising~~ the first mask masking and the protected positive liquid resist to form a conductive pattern on the insulating substrate; and

removing the first resist and the permanent-type positive liquid second resist, except for a part of the second resist protected to be unexposed and undeveloped.

10. (Currently Amended) A process as set forth in claim 9, wherein, in ~~a step of~~ removing the first resist and the second resist, a solution with which the first resist reacts, but the second resist does not react, is used.

11. (Cancelled)

12. (Cancelled)

13. (Currently Amended) A process for making a lead frame, comprising the following steps of:

forming thin, second metal layers on respective surfaces of a metal plate;  
applying respective first resist layers on the second metal layers and  
patterning the first resist layers to provide with form openings therein;

selectively etching selectively only the second metal layers through the openings of the respective, patterned second metal layers first resist layers to form first masks on corresponding opposite surfaces of the metal plate;

half-etching the opposite surfaces of the metal plate through by means of openings of the corresponding first masks ~~maskings composed of the first resist and the second metal layers located just under the first resists~~;

applying a positive liquid second resist on the half-etched opposite surfaces of the first metal layer through the openings of the corresponding ~~from respective sides of the first masks~~ maskings;

exposing the positive liquid resist with light through the openings of the ~~from respective sides of the first masks~~ maskings on corresponding opposite surfaces of the metal plate and developing the exposed positive liquid resist in such a manner that protected portions of the positive liquid resist located under portions of the corresponding first masks having no openings therein ~~maskings are protected to be unexposed and undeveloped, the protected portions of the positive liquid resist and the corresponding first masks together comprising respective second masks~~;

etching ~~again~~ the metal plate again at the opposite surfaces thereof through by means of the respective second masks, maskings to form a conductive pattern of the metal plate ~~each composed of the first masking and the protected positive liquid resist to form a conductive pattern~~; and

removing any remaining portions of the first and resist and the second resist layers.

14. (Currently Amended) A process as set forth in claim 13, wherein, in the ~~step of~~ exposing the positive liquid second resist with light from the respective sides of the first masks ~~maskings~~, parallel light is used.

15. (Original) A process as set forth in claim 13, wherein the second metal layers are

removed by etching after the first resists and second resists are removed.

16. (Currently Amended) A process as set forth in claim 13, wherein ~~the step of~~ removing the first resist and the second resist comprises ~~the following sub-steps of:~~ first peeling only the second resist and then removing the second metal layer by etching to remove the first resist.

17. (Cancelled)

18. (Currently Amended) A process for making a circuit board comprising ~~the following steps of:~~

coating a metal layer formed on an insulating substrate with a first resist and patterning the first resist;

forming light-blocking film on the patterned first resist;

half-etching the metal layer ~~through by means of~~ a first mask masking composed of comprising the first resist and the light-blocking film;

applying a positive liquid resist on the half-etched metal layer from an upper side surface of the first mask masking;

exposing the positive liquid resist with light from the upper side surface of the first mask masking and developing the positive liquid resist in such a manner that a protected portion of the positive liquid resist located under the first mask masking is ~~protected to~~ be unexposed and undeveloped;

etching again the metal layer ~~through by means of~~ a second mask masking composed of comprising the first mask masking and the protected positive liquid resist, to form a conductive pattern on the insulating substrate; and

removing the first mask masking and the second masking from the conductive pattern on the insulating substrate formed on the insulating substrate.

19. (Currently Amended) A process as set forth in claim 18, wherein, in ~~the step of~~ exposing the positive liquid resist with light from the upper side of the first mask masking, a parallel light is used.

20. (Currently Amended) A process for making a lead frame comprising ~~the following steps of:~~

coating ~~respective~~ opposite surfaces of a metal plate with corresponding first resist layers and patterning the corresponding first resist layers forming openings therein;

forming respective light-block films ~~film~~ on the remaining portions of the corresponding patterned first resist layers to form first masks on corresponding opposite surfaces of the metal plate;

half-etching opposite surfaces of the metal plate ~~from respective sides thereof~~ through by means of openings of the corresponding first masks, ~~maskings each composed of the first resist and the light-block film~~;

applying a positive liquid resist on the half-etched opposite surfaces of the metal plate through openings of the corresponding ~~from respective sides of the first masks~~ maskings;

exposing the positive liquid resist with light ~~from~~ through the openings of the respective sides of the first masks ~~maskings~~ on corresponding opposite surfaces of the metal plate and developing the exposed positive liquid resist in such a manner that a protected portion of the positive liquid resist, located under portions of the corresponding first masks having no openings therein, ~~masking is protected to be unexposed and undeveloped, the protected portion of the positive liquid resist and the corresponding first masks together comprising respective second masks~~;

etching again the metal plate at the opposite surfaces ~~from respective sides thereof~~ through by means of the respective second masks to form a conductive pattern of the metal plate ~~maskings each composed of the first masking and the protected positive liquid resist~~; and

removing any remaining portions of the first ~~masking~~ and the second masks ~~masking~~ from the metal plate.

21. (Currently Amended) A process as set forth in claim 20, wherein, in ~~the step of~~ exposing the positive liquid resist with light from the upper and lower sides of the respective first masks ~~maskings~~, a parallel light is used.

22. (Currently Amended) A process for forming a fine pattern on a metal plate comprising ~~the following steps of~~:

coating one or each of opposite ~~respective~~ surfaces of a metal plate with a respective first resist layer and patterning the each respective first resist layer;

forming a light-block film on each ~~the corresponding~~ patterned first resist

layer to form a first mask on the one or each of the opposite surfaces of the metal plate;

half-etching the metal plate on from the one or each of the opposite  
respective-side surfaces thereof through by means of openings of the corresponding first mask  
on the one or each of the opposite surfaces of the metal plate~~masking composed of composed~~  
~~of the first resist and the light block film;~~

applying a positive liquid resist on the half-etched metal plate through from  
openings of the corresponding first mask on the one or each of the opposite~~respective-side~~  
surfaces of the metal plate~~first masking;~~

exposing the positive liquid resist with light through the openings of the  
first mask on the from one or each of the opposite~~respective~~  
surfaces~~sides of the metal plate~~  
first masking and developing the exposed positive liquid resist in such a manner that a protected  
portions of the positive liquid resist located under  
respective portions of each the corresponding  
first mask~~masking is protected to be unexposed and undeveloped, the protected portions of the~~  
positive liquid resist and the first mask, on the one or each of the opposite surfaces of the metal  
plate, together comprising a second mask on the one or each of the opposite surfaces of the  
metal plate;

etching again the metal plate on from the one or the opposite~~respective~~  
surfaces~~side thereof through by means of the respective~~  
second mask on the one or each of  
the opposite surfaces of the metal plate~~masking composed of the first masking and the~~  
~~protected positive liquid resist; and~~

removing any remaining portions of the first masking and the second  
masks~~masking~~ from the metal plate.